(LVEF) >45%, and abnormal diastolic filling parameters on echocardiography. **Results** 734 subjects (52%) attended, 518 (71%) Caucasians and 216 (29%) from ethnic minorities, the majority from the Indian Subcontinent. 676 subjects (92%) had LVEF, diastolic parameters (E/A ratio, E wave deceleration time, isovolumic relaxation time) and questionnaire assessed. Twenty-nine (4.3%, 2.9-6.1%) subjects satisfied the criteria for DHF: mean age 65 years, 52% female, 69% Caucasian. 17 subjects (59%) had a history of hypertension, 9 of whom (53%) had echocardiographic evidence of left ventricular hypertrophy; 22 subjects (76%) had a history of any of hypertension, diabetes mellitus or coronary artery disease. Mean plasma NTB levels were 155pg/ml for those with DHF, compared with 77pg/ml for those without DHF together with normal systolic function and no significant valvular heart disease (p=0.001). NTB gave an area under the receiver operating characteristic curve of 0.69 (p<0.001) in predicting DHF in these subjects.**Conclusion** Thus DHF is a common problem in the community; is most commonly caused by hypertension, often in association with left ventricular hypertrophy, and leads to an increase in plasma natriuretic peptide levels.

1038-78

Diastolic Heart Failure and B-Type Natriuretic Peptide: The Important Influence of Female Gender and Underlying Coronary Artery Disease

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Background: Recent investigations have alluded to the value of assessing B-type Natriuretic Peptide (BNP) in "diastolic" heart failure. Although correlations with functional capacity have been suggested in this cohort, the potential confounding role of gender and coronary artery disease in determining BNP levels has not been previously elucidated.

Methods: We examined 62 consecutive heart failure patients with preserved left ventricular function (mean EF 58 ± 6 %) treated in our specialty center (71% on ACE inhibitor or ARB, 61% on beta blockers) and measured BNP levels with a point of care assay. Detailed demographic, echocardiographic and clinical parameters were collected and independent correlations with BNP levels were conducted.

Results: On linear regression analysis, significant correlates of BNP levels were age (r = 0.3, p = 0.01), NYHA class (r = 0.4, p = 0.003), female gender (r = 0.25, p = 0.04), and underlying coronary artery disease (r = 0.22, p = 0.06). No significant correlation was noted between BNP levels and EF, serum creatinine, BMI, African American race, use of ACE inhibitor or ARB or beta-blocker therapy. On multivariable regression analysis only female gender (t =2.6, p = 0.01), coronary artery disease (t = 2.4, p = 0.02), and NYHA class (t =1.9, p = 0.05) remained independent predictors of elevated BNP levels.

Conclusions: While this investigation has confirmed the relationship of symptom directed functional class estimates and BNP levels in "diastolic" heart failure, female gender and underlying coronary artery disease were also found to predict the expression of this cardiac neurohormone. Thus, elevated BNP levels in heart failure and preserved systolic function should prompt the clinician to pursue a potential underlying ischemic substrate.

1038-79

Tissue Doppler Imaging Is Superior to Mitral Flow Velocities for Predicting Exercise Performance

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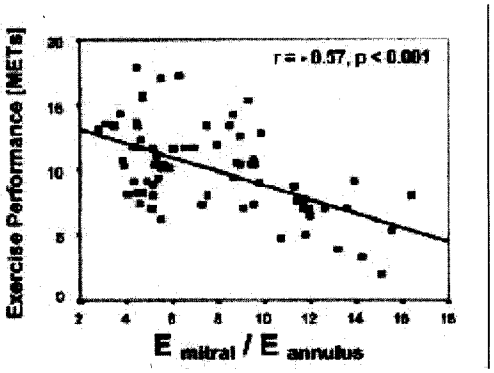
Background: A reduced early diastolic to late diastolic mitral inflow velocity ratio (E/A) on conventional Doppler flow imaging implies slowing of left ventricular (LV) relaxation. Decreased E/A ratio occurs commonly in older patients and is widely believed to be an indicator of significant diastolic dysfunction.

Methods: To determine whether E/A is predictive of exercise capacity, we performed conventional Doppler measurements of transmitral flow and tissue Doppler imaging of the mitral annulus in 76 patients prior to maximal exercise testing. The apical 4-chamber view was used to obtain the velocities.

Results: Exercise capacity correlated with the ratio of early mitral flow (E) to early annulus velocity (Ea) (r= - 0.57, p=0.001; Figure) while E/A did not correlate. The patients with E/Ea<10 performed better on treadmill than the patients with E/Ea<10 by mean of 4.9 METs (95% CI of 3.44 to 6.30; p<0.001). Exercise capacity was similar in patients with a normal mitral inflow pattern and those with a slow relaxation pattern of mitral inflow (E/A<1) but E/Ea<10. The subjects with a slow relaxation mitral inflow pattern and E/Ea <10 performed poorly on treadmill as did subjects in the groups with pseudonormalized or restrictive pattern.

Conclusion: Tissue Doppler imaging of mitral annulus can predict functional capacity of patients better than conventional measures of mitral inflow. These data suggest that elevated LV filling pressures rather than slow LV relaxation adversely affects exercise capacity.



1038-80

A Low Pulse Pressure Is an Independent Predictor of Mortality in Heart Failure: Data From a Large Nationwide Cardiology Database (IN-CHF Registry)

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High pulse pressure (PP) is an independent risk factor for cardiovascular mortality in hypertensive subjects and in the elderly general population. PP is a complex parameter, which is influenced by large-artery stiffness on one hand and by contractile function of the left ventricle on the other hand. We analyzed data from the Italian Network of Congestive Heart Failure (IN-CHF) registry to test the hypothesis that PP may have an independent prognostic role among patients with heart failure (HF).

Methods: The study group included 8660 patients with HF (mean age 64±12 years, men 73%). Thirty per cent of the patients were in New York Heart Association class III or IV. Subjects were divided into 4 groups according to their PP at enrollment: <40 mmHg, 40-49 mmHg, 50-59 mmHg, and ≥ 60 mmHg. Univariate and multivariate analyses were performed to assess the association between PP and all-cause mortality at 1 year.

Results: All cause mortality at 1 year was 11.5% (995/8660). Both mean arterial pressure (odds ratio [OR] 0.98, 95% confidence interval [CI] 0.97-0.99) and systolic blood pressure (SBP) (OR 0.98, 95% CI 0.98-0.99) had an independent inverse association with mortality. An inverse univariate relation was observed between PP and mortality rate. The excess mortality risk in the lowest PP group (OR 1.45, 95% CI 1.13-1.85 vs the highest PP group) was confirmed in a multivariate analysis which took into account the effect of several other variables. When SBP replaced mean arterial pressure in the model, PP did not retain its independent prognostic role, possibly because of a high linear correlation between these two variables (r=0.87, p<0.0001).

Conclusion: A low PP is an independent predictor of mortality among patients with HF. Different pathophysiological mechanisms may underlie the different prognostic significance of PP in hypertension and in HF.

1038-81

Does Endomyocardial Biopsy in Heart Failure Patients Have Diagnostic Value?

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Background: The routine use of endomyocardial biopsy (EMB) as a diagnostic test in the evaluation of heart failure patients (HFP) is controversial and generally unadvisable because of low diagnostic yield and potential for significant procedural morbidity and mortality. Purpose: Therefore we reviewed our experience with EMB in a large and mostly referral HFP at our tertiary care center. **Methods:** We retrospectively reviewed 3419 EMB records from the 3/1/97 to 2/28/02 and identified 78 (2.3%) HFP, who were screened and referred for EMB by the heart failure specialists. Pre-EMB clinical diagnosis included 55% dilated cardiomyopathy, 14% prior condition (amyloid, sarcoid, lupus), 7% probable myocarditis, 11% ischemia, 6% drug toxicity, 3% hypertrophic cardiomyopathy, 3% constrictive pericarditis, 1% restrictive cardiomyopathy. EMBs were completed through conventional right internal jugular vein approach under fluoroscopic guidance utilizing commercially available bioptomes. EMB samples were routinely submitted for light and electron microscopy, immunofluoresence, Congo red and iron staining. **Results:** There were 44 (56%) men and 34 (44%) women with mean age of 50.5±18.5 (13-81) years. EMB results were 57 (73.1%) non-diagnostic and 21(26.9%) diagnostic findings such as 8 (10.2%) amyloid, 5 (6.4%) drug toxicity, 4 (5.1%) myocarditis, 2 (2.6%) iron overload and 2 (2.6%) immunologic/lupus. In HFP undergoing EMB there were 2 (2.6%) of right ventricular perforations as the major procedural complication. In comparison in 3341 EMB performed routinely in heart transplant recipients there were 4 (0.12%) bleedings/hematoma, 3 (0.09%) life threatening arrhythmia, 3 (0.09%) carotid puncture and 1 (0.03%) right ventricular perforation. **Conclusions:** In HFP without established etiology for heart failure, EMB is of diagnostic value in 26.9% of cases. Contrary to prior concerns regarding the safety of the EMB in HFP this diagnostic test can be completed with low procedural morbidity and no mortality.